ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #122090-
EDS00-0441-00(028)
Rabun County
US 441/SR 15 Improvements

OFFICE Design Policy & Support

DATE 7/30/2010

FROM for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED REVISED CONCEPT REPORT**

Attached is the approved Revised Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Genetha Rice-Singleton, Program Control Adminstrator
Ron Wishon, State Project Review Engineer
Glenn Bowman, State Environmental Administrator
Ken Thompson, Statewide Location Bureau Chief
Michael Henry, Systems & Classification Branch Chief
Kathy Zahul, State Traffic Engineer
Angela Alexander, State Transportation Planning Administrator
Paul Liles, State Bridge Engineer
Bobby Hilliard, State Program Delivery Engineer
Angela Robinson, Financial Management Administrator
Jeff Baker, State Utilities Engineer
Allen Ferguson, District Utilities Engineer
Robert Mahoney, District Preconstruction Engineer
Todd McDuffie, District Engineer
Hiral Patel, Project Manager
BOARD MEMBER - 10th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

REVISED PROJECT CONCEPT REPORT

Project Number: EDS00-0441-00(028)
County: Rabun
P. I. Number: 122090
Federal Route Number: 441
State Route Number: 15

Attached is the original copy of the Revised Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

In order to reduce environmental impacts and enhance continuity throughout the project, the typical section for project EDS00-0441-00(028) in Rabun County is proposed to be revised. The 20-foot raised median urban typical section is recommended to be revised to include 10-foot sidewalks in the urban shoulders. It is recommended to utilize the rural typical section in between Mountain City and Dillard. The typical section through Dillard is recommended to be revised to a 17-foot and a 6-foot raised median section to minimize impacts to businesses.

Submitted for approval:

DATE 5/20/10 — J. Michael Hatley
Design Consultant – KCI Technologies, Inc.

DATE 6/09/2010 — [signature]
Office Head (Project Manager's Office)

DATE 6/09/2010 — Hiral Patel
Project Manager

Recommendation for approval:

DATE 06/14/2010 — GLENN BOWMAN / for *
State Environmental Administrator

DATE 06/21/2010 — PAUL LILES / for *
State Bridge Design Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE 7/15/10 — Angela I. Alexander
State Transportation Planning Administrator

* RECOMMENDATION ON FILE

REVISED PROJECT CONCEPT REPORT

P.I. Number: 122090
Project Number: EDS00-0441-00(028)
County: Rabun

Need and Purpose: US 441 is the primary north-south corridor in northeast Georgia and it is a major tourist route through the Great Smokey and Blue Ridge Mountains. The proposed widening and construction of a median would reduce congestion and enhance the traffic flow, while improving the operational characteristics and safety along US 441.

Project location: Project EDS00-0441-00(028) would improve US 441/SR 15 in Rabun County. The project begins along US 441/SR 15 approximately at mile post 12.3 in the northern limit of Clayton. It continues northward along US 441/SR 15 through Mountain City and the City of Dillard. The project would end at the North Carolina state line approximately at mile post 19.7 of US 441/SR 15. The total length of the project is approximately 7.4 miles.

Description of the approved concept: Project EDS00-0441-00(028) in Rabun County is proposed to improve US 441/SR 15 from CS 500/Clayburn Road, just inside Clayton's northern limit, northward to the North Carolina state line. US 441/SR 15 is proposed as widening to four lanes with a 20-foot raised median throughout the limits of the project. US441/SR 15 would be widened on the west side from the beginning of the project to approximately CR 39/Mountain City Road then transition to east widening to approximately File Street. Widening would then shift back to the west to avoid impacting Stekoa Creek east of US 441/SR 15 to approximately Cross Street. From there, this project would transition to east widening entering the southern limits of Mountain City to approximately Johnson Avenue. After Johnson Avenue, widening would become symmetrical to reduce impacts to eligible historic resources on both sides of US 441/SR 15 until approximately 0.5 miles north of CR 2/John Beck Dockins Road and transition to east widening to approximately CS 700/Betty White Cloud Street in the southern limits of Dillard. Widening would then transition to the west to avoid impacting the Sue B. Pennington eligible historic resource property as well as Dillard businesses and business parking. The Lucy Speed eligible historic resource property north of CR 6/Greenwood Road would be impacted without an adverse affect. This project would continue widening US 441/SR 15 to the west until the ending terminus at the North Carolina state line.

The existing 5-lane typical section at the beginning terminus would be extended slightly for business access before transitioning to the rural 20-foot raised median typical section up to Mountain City's southern limits. The rural 20-foot raised median typical section would also be constructed from SR 246/Highlands Road to the North Carolina state line before tapering into the existing 5-lane typical section at the ending terminus in North Carolina for continuity. The rural typical sections will accommodate bicycle traffic within the 10-foot shoulders and have a proposed right-of-way varying between 150 feet and 450 feet. An urban 20-foot raised median typical section would be constructed between Mountain City's southern limits to approximately CR 220/Betty Creek Road and from approximately CR 6/Greenwood Road to SR 246/Highlands Road for minimization of social impacts as well as eligible historic resources on both sides of US 441/SR 15. This urban section will also include an additional four feet of pavement in each

direction prior to the shoulder point to accommodate bike lanes (eight feet total additional pavement width). The proposed urban right-of-way varies between 130 feet and 428 feet. An urban 8-foot raised median typical section would be constructed between CR 220/Betty Creek Road and CR 6/Greenwood Road on proposed right-of-way varying between 86 feet and 150 feet. The 8-foot raised median typical section would include 12-foot outside lanes, 11-foot inside lanes, and a 10-foot sidewalk in the urban shoulders for multi-use by pedestrians and cyclists. It is recommended that a design variance be requested during the design phase for this proposed context sensitive design. The design speed is 45 mph throughout the project. The posted speed limit between Clayton and Mountain City is 55 mph with a vertical and horizontal alignment that is substandard for a 55 mph speed design. It is recommended that a design variance be requested during the design phase that would allow the 45 mph speed design throughout the project. The total length of the project is approximately 7.4 miles.

CR 1/Old Wolf Fork Road and CR 5/York House Road would be relocated northward on new location to provide a safer intersection with US 441/SR 15. CR 7/Kelly's Creek Road would be relocated slightly south to its original location and improved for a safer intersection with US 441/SR 15. Franklin Street is proposed to extend to CR 6/Greenwood Road to provide access to businesses along Franklin Street due to the typical section along US 441/SR 15 in Dillard. CR 91/Black Circle is proposed for extension to River Valley Lane to provide a safer intersection. The bridge over Little Tennessee River would be widened and a new bridge would be constructed over Betty Creek.

PDP Classification: Major __X__ Minor_____

Federal Oversight: Full Oversight ( ), Exempt(X), State Funded( ), or Other ( )

Functional Classification: Rural Principal Arterial

U. S. Route Number(s): 441 **State Route Number(s):** 15

Traffic (AADT) as shown in the approved concept:
Base Year (2010): 13,500 – 19,000 Design Year (2030): 21,700 – 30,400

Updated traffic data (AADT):
Base Year (2013): 17,750 Design Year (2033): 29,650
**UPDATED TRAFFIC REQUESTED BY P.M. DUE TO PROPOSED 2015 CONSTRUCTION.
Approved Programmed/Schedule:
P.E. 2002 R/W: 2011 Construction: LR

VE Study Required Yes (X) No ( )

Benefit/Cost Ratio 0.65

Is the project located in an Ozone Non-attainment area? Yes ( ) No (X)

Is the project in a PM2.5 Non-attainment area? Yes ( ) No (X)

Approved Features:	**Proposed Features**:
The approved concept is to widen US 441/SR 15 to two lanes in each direction and construct a median throughout. A rural 20-foot raised median typical section will be used from the beginning terminus to Mountain City's southern limits and from SR/246 Highlands Road to the ending terminus. An urban 20-foot raised median typical section with 4-foot bike lanes in each direction will be constructed from Mountain City's southern limits to CR 220/Betty Creek Road and from CR 6/Greenwood Road to SR 246/Highlands Road. A reduced urban typical section with an 8-foot raised median and 10-foot multi-use paths in the shoulders will be constructed between CR 220/Betty Creek Road and CR 6/Greenwood Road.	The project features of the approved project concept to be revised are the typical sections and right-of-way limits. The urban 20-foot raised median would include 10-foot sidewalks in the urban shoulders for multi-use by pedestrians and cyclists. The previously approved 4-foot bike lanes in the urban section will be removed. The 20-foot median urban typical section will be located between Mountain City's southern limits to Cathey Road and from CR 161/Ledford Road to SR 246/Highlands Road. The previously approved rural typical section will be utilized between the beginning terminus to Mountain City's southern limits, from Cathey Road to CR 216/Wolffork Road, and from SR 246/Highlands Road to the Georgia and North Carolina state line. The typical section approximately between CR 216/Wolffork Road and CR 161/Ledford Road is recommended to be revised to reduce impacts to business along US 441/SR 15. The typical section through this section is proposed to consist of a 17-foot and a 6-foot raised median, 11-foot lanes, and include 10-foot sidewalks in the urban shoulders for multi-use by pedestrians and cyclists. It is recommended that a design variance be requested during the design phase for this proposed context sensitive design in Dillard. The proposed typical section through Dillard has a proposed right-of-way varying between 82 feet and 150 feet.

Reason for Change:
The VE study recommended the changes and they were approved for implementation. The typical sections were also revised in order to reduce environmental impacts and enhance continuity throughout the project.

Potential Environmental Impacts of Proposed Revision: Environmental impacts have been reduced by reducing the overall footprint and avoiding historic resource properties.

Have Proposed Revisions Been Reviewed by Environmental Staff? Yes (X) No ( )

Environmental Responsibilities (Studies/Documents/Permits):

- Historic Resources Surveys/Report – Prime Consultant
- Cultural Resources Assessment of Effects – Prime Consultant
- Ecology Studies and Report – Prime Consultant
- Noise Assessment – Prime Consultant
- Air Quality Analysis – Office of Environmental Services
- Floodplain Impacts – Sub Consultant
- Conceptual Stage Study – Sub Consultant
- UST and Hazardous Waste Surveys – Sub Consultant
- Environmental Assessment/FONSI – Sub Consultant
- USACOE Section 404 Permit – Prime Consultant
- Section 26a TVA Permit – Prime Consultant

Updated Cost Estimate	
Base Construction Cost	$33,614,736.40
Engineering and Inspection	$1,680,736.82
Fuel & Asphalt Adjustment	$6,572,785.09
Total Construction Cost	$41,868,258.30
Right-of-Way	$20,847,000.00
Utilities (reimbursable)	$1,154,000.00

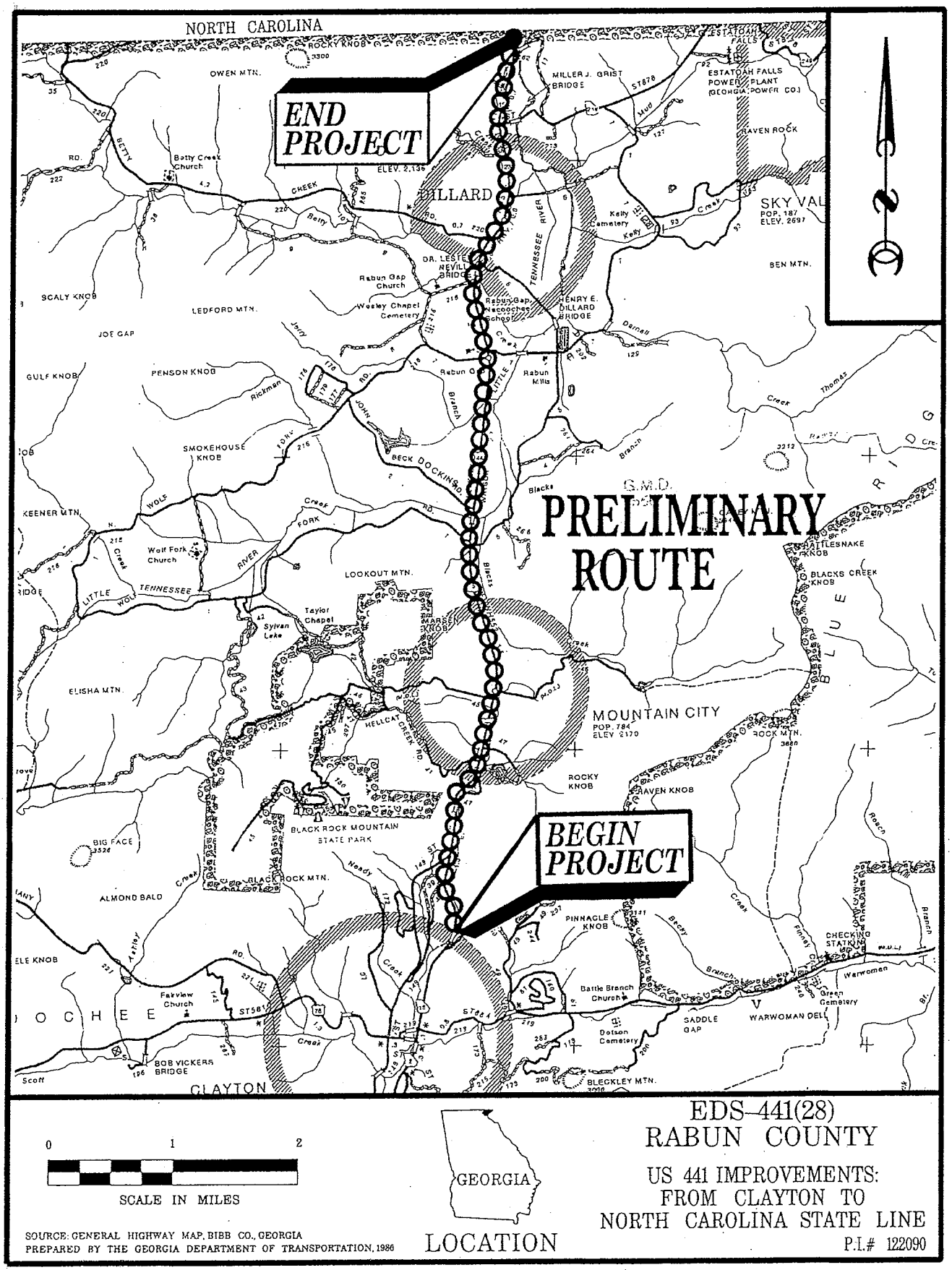
Recommendation: It is recommended that the proposed revisions to the concept be approved for implementation.

Attachments:

1. Sketch Map,
2. Cost Estimates,
3. Typical Sections
4. Updated Traffic
5. VE Report Recommendations for Implementation Table

Concur: _____
Director of Engineering

Approve: _____ Date: 7/28/10
Chief Engineer


NORTH CAROLINA
END PROJECT
BEGIN PROJECT
PRELIMINARY ROUTE
OWEN MTN.
ROCKY KNOB
ESTATOAH FALLS
MILLER J. GRIST BRIDGE
ESTATOAH FALLS POWER PLANT (GEORGIA POWER CO.)
RAVEN ROCK
Betty Creek Church
ELEV. 2,136
DILLARD
SKY VAL
POP. 187
ELEV. 2697
Kelly Cemetery
DR. LESTER NEVILLE BRIDGE
TENNESSEE RIVER
BEN MTN.
SCALY KNOB
LEDFORD MTN.
Rabun Gap Church
Wesley Chapel Cemetery
Rabun Gap-Nacoochee School
HENRY E. DILLARD BRIDGE
JOE GAP
GULF KNOB
PENSON KNOB
Rabun Mills
SMOKEHOUSE KNOB
BECK DOCKINS RD.
G.M.D.
KEENER MTN.
Wolf Fork Church
LOOKOUT MTN.
RATTLESNAKE KNOB
BLACKS CREEK KNOB
Taylor Chapel
Sylvan Lake
ELISHA MTN.
MOUNTAIN CITY
POP. 784
ELEV. 2170
ROCK MTN.
ROCKY KNOB
RAVEN KNOB
BLACK ROCK MOUNTAIN STATE PARK
BIG FACE
BLACK ROCK MTN.
ALMOND BALD
PINNACLE KNOB
CHECKING STATION
Fairview Church
Battle Branch Church
Green Cemetery
SADDLE GAP
WARWOMAN DELL
Dotson Cemetery
BOB VICKERS BRIDGE
CLAYTON
BLECKLEY MTN.
0
1
2
SCALE IN MILES
GEORGIA
LOCATION
EDS-441(28)
RABUN COUNTY
US 441 IMPROVEMENTS:
FROM CLAYTON TO
NORTH CAROLINA STATE LINE
P.I.# 122090
SOURCE: GENERAL HIGHWAY MAP, BIBB CO., GEORGIA
PREPARED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION, 1986

Estimate Report for file "122090_Concept_Report_02-19-2010"

Section Bridges, Walls and Culverts

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3101	600	CY	363.58	CLASS A CONCRETE	218148.0
511-1000	35000	LB	0.6	BAR REINF STEEL	21000.0
540-1101	1	LS	200000.0	REMOVAL OF EXISTING BR, STA NO -	200000.0
543-1100	1	Lump Sum	170775.0	Bridge Complete - Widen Bridge over Little Tennessee River	170775.0
543-1100	1	Lump Sum	1314563.0	Bridge Complete - New Bridge over Betty Creek	1314563.0
610-9008	2	LS	6112.9	REM PORTIONS OF EXISTING CLVT, INCL WINGWALLS & PARAPETS, STA -	12225.8
627-1000	15809	SF	32.25	MSE WALL FACE, 0 - 10 FT HT, WALL NO -	509840.25
627-1010	20462	SF	35.0	MSE WALL FACE, 10 - 20 FT HT, WALL NO -	716170.0
627-1020	10121	SF	38.89	MSE WALL FACE, 20 - 30 FT HT, WALL NO -	393605.69
627-1140	400	LF	191.0	TRAFFIC BARRIER V, WALL NO -	76400.0
627-1180	800	CY	25.29	ADDITIONAL MSE BACKFILL	20232.0
678-0100	136054	SF	65.0	PERMANENT SOIL-NAILED WALL, NO -	8843510.0
				Section Sub Total:	**$12,496,469.74**

Section Roadway

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	500000.0	TRAFFIC CONTROL -	500000.0
150-5010	12	EA	5506.31	TRAFFIC CONTROL, PORTABLE IMPACT ATTENUATOR	66075.72
153-1300	1	EA	64089.88	FIELD ENGINEERS OFFICE TP 3	64089.88
210-0100	1	LS	1862286.0	GRADING COMPLETE -	1862286.0
310-1101	209700	TN	14.87	GR AGGR BASE CRS, INCL MATL	3118239.0
318-3000	5000	TN	16.89	AGGR SURF CRS	84450.0
402-1801	4600	TN	76.0	RECYCLED ASPH CONC PATCHING, INCL BITUM MATL	349600.0
402-1811	4600	TN	60.74	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL	279404.0
402-3121	63650	TN	54.01	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	3437736.5
402-3130	21440	TN	59.87	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	1283612.8
402-3131	3970	TN	59.0	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	234230.0
402-3190	35060	TN	58.0	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	2033480.0
413-1000	15940	GL	1.73	BITUM TACK COAT	27576.2
432-5010	155220	SY	1.25	MILL ASPH CONC PVMT, VARIABLE DEPTH	194025.0
441-0016	1500	SY	36.25	DRIVEWAY CONCRETE, 6 IN TK	54375.0
441-0018	2000	SY	34.54	DRIVEWAY CONCRETE, 8 IN TK	69080.0
441-0104	0	SY	23.64	CONC SIDEWALK, 4 IN	0.0
441-0754	61906	SY	45.33	CONCRETE MEDIAN, 7 1/2 IN	2806198.98
441-4020	1500	SY	35.26	CONC VALLEY GUTTER, 6 IN	52890.0
441-4030	1500	SY	37.32	CONC VALLEY GUTTER, 8 IN	55980.0
441-6222	108400	LF	11.76	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	1274784.0
446-1100	40900	LF	3.01	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	123108.99
632-0003	8	EA	6817.61	CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	54540.88
634-1200	200	EA	85.4	RIGHT OF WAY MARKERS	17080.0
641-1100	84	LF	43.4	GUARDRAIL, TP T	3645.6
641-1200	15600	LF	14.56	GUARDRAIL, TP W	227136.0
641-5001	24	EA	632.59	GUARDRAIL ANCHORAGE, TP 1	15182.16
641-5012	24	EA	2225.99	GUARDRAIL ANCHORAGE, TP 12	53423.75
643-8200	35000	LF	1.88	BARRIER FENCE (ORANGE), 4 FT	65800.0
				Section Sub Total:	**$18,408,030.48**

Section Drainage

Item Number	Quantity	Units	Unit Price	Item Description	Cost
550-1180	10000	LF	29.13	STORM DRAIN PIPE, 18 IN, H 1-10	291300.0

550-1181	200	LF	60.18	STORM DRAIN PIPE, 18 IN, H 10-15	12036.0
550-1182	200	LF	52.96	STORM DRAIN PIPE, 18 IN, H 15-20	10592.0
550-1240	2000	LF	35.46	STORM DRAIN PIPE, 24 IN, H 1-10	70920.0
550-1241	200	LF	46.4	STORM DRAIN PIPE, 24 IN, H 10-15	9280.0
550-1242	200	LF	39.1	STORM DRAIN PIPE, 24 IN, H 15-20	7820.0
550-1300	200	LF	41.61	STORM DRAIN PIPE, 30 IN, H 1-10	8322.0
550-1301	200	LF	46.94	STORM DRAIN PIPE, 30 IN, H 10-15	9388.0
550-1302	200	LF	57.46	STORM DRAIN PIPE, 30 IN, H 15-20	11492.0
550-1360	200	LF	49.93	STORM DRAIN PIPE, 36 IN, H 1-10	9986.0
550-1361	200	LF	51.77	STORM DRAIN PIPE, 36 IN, H 10-15	10354.0
550-1362	200	LF	65.97	STORM DRAIN PIPE, 36 IN, H 15-20	13194.0
550-2180	200	LF	21.68	SIDE DRAIN PIPE, 18 IN, H 1-10	4336.0
550-2240	200	LF	28.11	SIDE DRAIN PIPE, 24 IN, H 1-10	5622.0
550-3318	50	EA	616.85	SAFETY END SECTION 18 IN, STORM DRAIN, 4:1 SLOPE	30842.5
550-3324	20	EA	746.15	SAFETY END SECTION 24 IN, STORM DRAIN, 4:1 SLOPE	14923.0
550-3330	10	EA	1776.48	SAFETY END SECTION 30 IN, STORM DRAIN, 4:1 SLOPE	17764.8
550-3336	10	EA	1411.0	SAFETY END SECTION 36 IN, STORM DRAIN, 4:1 SLOPE	14110.0
550-3418	10	EA	541.56	SAFETY END SECTION 18 IN, SIDE DRAIN, 4:1 SLOPE	5415.59
550-3424	10	EA	723.98	SAFETY END SECTION 24 IN, SIDE DRAIN, 4:1 SLOPE	7239.8
550-3518	10	EA	629.61	SAFETY END SECTION 18 IN, STORM DRAIN, 6:1 SLOPE	6296.1
550-3524	10	EA	784.76	SAFETY END SECTION 24 IN, STORM DRAIN, 6:1 SLOPE	7847.6
550-3530	10	EA	1195.93	SAFETY END SECTION 30 IN, STORM DRAIN, 6:1 SLOPE	11959.30
550-3536	10	EA	1585.33	SAFETY END SECTION 36 IN, STORM DRAIN, 6:1 SLOPE	15853.3
550-3618	50	EA	542.27	SAFETY END SECTION 18 IN, SIDE DRAIN, 6:1 SLOPE	27113.5
550-3624	10	EA	788.87	SAFETY END SECTION 24 IN, SIDE DRAIN, 6:1 SLOPE	7888.7
550-4118	50	EA	441.16	FLARED END SECTION 18 IN, SIDE DRAIN	22058.0
550-4124	10	EA	480.43	FLARED END SECTION 24 IN, SIDE DRAIN	4804.3
550-4218	50	EA	445.27	FLARED END SECTION 18 IN, STORM DRAIN	22263.5
550-4224	10	EA	551.46	FLARED END SECTION 24 IN, STORM DRAIN	5514.6
550-4230	10	EA	725.01	FLARED END SECTION 30 IN, STORM DRAIN	7250.1
550-4236	10	EA	920.82	FLARED END SECTION 36 IN, STORM DRAIN	9208.2
573-2006	5000	LF	8.98	UNDDR PIPE INCL DRAINAGE AGGR, 6 IN	44900.0
668-1100	50	EA	2117.93	CATCH BASIN, GP 1	105896.49
668-1110	20	LF	149.49	CATCH BASIN, GP 1, ADDL DEPTH	2989.8
668-1200	20	EA	2711.74	CATCH BASIN, GP 2	54234.79
668-1210	10	LF	181.79	CATCH BASIN, GP 2, ADDL DEPTH	1817.89
668-2100	200	EA	1821.91	DROP INLET, GP 1	364382.0
668-2110	50	LF	155.47	DROP INLET, GP 1, ADDL DEPTH	7773.5
668-2200	20	EA	2143.82	DROP INLET, GP 2	42876.4
668-2210	10	LF	197.86	DROP INLET, GP 2, ADDL DEPTH	1978.60
668-3300	20	EA	1870.51	SAN SEWER MANHOLE, TP 1	37410.2
668-5000	20	EA	1594.47	JUNCTION BOX	31889.4
				Section Sub Total:	**$1,409,144.00**

Section Signing and Marking

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	500	SF	13.48	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	6740.0
636-1033	500	SF	18.17	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	9085.0
636-1041	500	SF	27.7	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 9	13850.0
636-2070	5000	LF	6.93	GALV STEEL POSTS, TP 7	34650.0
639-2001	1000	LF	1.69	STEEL WIRE STRAND CABLE, 1/4 IN	1690.0
639-4004	12	EA	5388.0	STRAIN POLE, TP IV	64656.0
653-0120	60	EA	68.7	THERMOPLASTIC PVMT MARKING, ARROW, TP	4122.0

				2	
653-0130	2	EA	93.34	THERMOPLASTIC PVMT MARKING, ARROW, TP 3	186.68
653-0140	2	EA	150.0	THERMOPLASTIC PVMT MARKING, ARROW, TP 4	300.0
653-0150	2	EA	126.83	THERMOPLASTIC PVMT MARKING, ARROW, TP 5	253.66
653-0170	2	EA	98.07	THERMOPLASTIC PVMT MARKING, ARROW, TP 7	196.14
653-0210	30	EA	104.26	THERMOPLASTIC PVMT MARKING, WORD, TP 1	3127.8
653-1501	129600	LF	0.31	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	40176.0
653-1502	84000	LF	0.33	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	27720.0
653-1704	600	LF	3.59	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	2154.0
653-1804	600	LF	1.69	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	1014.0
653-3501	84000	GLF	0.22	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	18480.0
653-3502	11616	GLF	0.26	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, YELLOW	3020.16
653-6004	5000	SY	2.55	THERMOPLASTIC TRAF STRIPING, WHITE	12750.0
653-6006	2500	SY	2.65	THERMOPLASTIC TRAF STRIPING, YELLOW	6625.0
654-1010	1290	EA	32.24	RAISED PVMT MARKERS TP 10	41589.60
				Section Sub Total:	**$292,386.04**

Section Erosion Control

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	28	AC	291.16	TEMPORARY GRASSING	8152.48
163-0240	188	TN	141.98	MULCH	26692.23
163-0300	10	EA	932.66	CONSTRUCTION EXIT	9326.6
163-0503	75	EA	368.6	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	27645.0
163-0520	6500	LF	12.43	CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN	80795.0
163-0523	400	EA	143.0	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS - TYPE C SILT FENCE	57200.0
163-0550	250	EA	145.08	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	36270.0
165-0030	52000	LF	0.63	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	32760.0
165-0040	400	EA	55.0	MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS	22000.0
165-0087	75	EA	99.23	MAINTENANCE OF SILT CONTROL GATE, TP 3	7442.25
165-0101	10	EA	432.2	MAINTENANCE OF CONSTRUCTION EXIT	4322.0
165-0105	250	EA	52.5	MAINTENANCE OF INLET SEDIMENT TRAP	13125.0
167-1000	52	EA	409.97	WATER QUALITY MONITORING AND SAMPLING	21318.44
167-1500	26	MO	508.17	WATER QUALITY INSPECTIONS	13212.42
171-0030	105000	LF	2.65	TEMPORARY SILT FENCE, TYPE C	278250.0
603-2181	5000	SY	32.31	STN DUMPED RIP RAP, TP 3, 18 IN	161550.0
603-7000	5000	SY	3.36	PLASTIC FILTER FABRIC	16800.0
700-6910	123	AC	667.95	PERMANENT GRASSING	82157.85
700-7000	123	TN	52.94	AGRICULTURAL LIME	6511.62
700-7010	308	GL	15.9	LIQUID LIME	4897.2
700-8000	74	TN	360.45	FERTILIZER MIXED GRADE	26673.3
700-8100	6153	LB	2.22	FERTILIZER NITROGEN CONTENT	13659.66
710-9000	42	SY	2.38	PERMANENT SOIL REINFORCING MAT	99.96
715-2200	10000	SY	1.35	BITUMINOUS TREATED ROVING, WATERWAYS	13500.0
716-2000	41	SY	0.94	EROSION CONTROL MATS, SLOPES	38.54
				Section Sub Total:	**$964,399.56**

Section Signals

Item Number	Quantity	Units	Unit Price	Item Description	Cost
647-1000	1	LS	44306.58	TRAFFIC SIGNAL INSTALLATION NO -	44306.58
				Section Sub Total:	**$44,306.58**

Total Estimated Cost: $33,614,736.40

9/29/2009

PROJ. NO.	EDS-441(28)
P.I. NO.	122090
DATE	5/17/2010

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	May-10	$ 2.804
DIESEL		$ 3.018
LIQUID AC		$ 509.00

Link to Fuel and AC Index:
http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)-0.05]xTMTxAPL

Asphalt

Price Adjustment (PA)			**$ 3,931,108.80**	**$ 3,931,108.80**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	125%	$ 1,145.25	
Monthly Asphalt Cement Price month project let (APL)			$ 509.00	
Total Monthly Tonnage of asphalt cement (TMT)			6436	

ASPHALT	Tons	%AC	AC ton
Leveling	4600	5.0%	230
12.5 OGFC		5.0%	0
12.5 mm	21440	5.0%	1072
9.5 mm SP	3970	5.0%	198.5
25 mm SP	63650	5.0%	3182.5
19 mm SP	35060	5.0%	1753
	128720		**6436**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$ 41,817.76**	**$ 41,817.76**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	125%	$ 1,145.25	
Monthly Asphalt Cement Price month project let (APL)			$ 509.00	
Total Monthly Tonnage of asphalt cement (TMT)			68.4639087	

Bitum Tack Gals	gals/ton	tons
15940	232.8234	68.4639087

PROJ. NO.	EDS-441(28)	CALL NO.	
P.I. NO.	122090		
DATE	5/17/2010		

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)			**$ -**	**$ -**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	125%	$ 1,145.25	
Monthly Asphalt Cement Price month project let (APL)			$ 509.00	
Total Monthly Tonnage of asphalt cement (TMT)			0	

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT	**$ 3,972,926.56**

PROJ. NO.	EDS-441(28)
P.I. NO.	122090
DATE	5/17/2010

CALL NO.

FUEL ADJUSTMENTS - ROADWAY

FPA = ([((FPM-FPL)/FPL)-.10]xQxF)FPL

GRADED AGGREGATE BASE (Section 310)			**REGULAR UNLEADED**	**DIESEL**	**TOTALS**
Fuel Price Adjustment (FPA)			$ 162,287.67	$ 211,063.68	$ 373,351.35
Monthly Fuel Price for month work was accomplished (FPM)	Max. Cap	125%	$ 6.309	$ 6.791	
Monthly Fuel Price for month when project was let (FPL)			$ 2.804	$ 3.018	
Quantity Placed (Q)	Ton	209700			
Fuel Usage Factor (F)			0.24	0.29	

ASPHALT (Sections 400 and 402)			**REGULAR UNLEADED**	**DIESEL**	
Fuel Price Adjustment (FPA)			$ 294,700.06	$ 1,295,570.66	$ 1,590,270.73
Monthly Fuel Price for month work was accomplished (FPM)	Max. Cap	125%	$ 6.309	$ 6.791	
Monthly Fuel Price for month when project was let (FPL)			$ 2.804	$ 3.018	
Quantity Placed (Q)	Ton	128720			
Fuel Usage Factor (F)			0.71	2.90	

EARTHWORK (Section 205 and 206)			**REGULAR UNLEADED**	**DIESEL**	
Fuel Price Adjustment (FPA)			$ 193,936.47	$ 403,559.39	$ 597,495.86
Monthly Fuel Price for month work was accomplished (FPM)	Max. Cap	125%	$ 6.309	$ 6.791	
Monthly Fuel Price for month when project was let (FPL)			$ 2.804	$ 3.018	
Quantity Placed (Q)	Cy	400952			
Fuel Usage Factor (F)			0.15	0.29	

CONCRETE PAVEMENT (Section 430)			**REGULAR UNLEADED**	**DIESEL**	
Fuel Price Adjustment (FPA)			$ -	$ -	$ -
Monthly Fuel Price for month work was accomplished (FPM)	Max. Cap	125%	$ 6.309	$ 6.791	
Monthly Fuel Price for month when project was let (FPL)			$ 2.804	$ 3.018	
Quantity Placed (Q)	Sy				
Fuel Usage Factor (F)			0.20	0.25	
TOTAL ROADWAY FUEL ADJUSTMENTS			$ 650,924.21	$ 1,910,193.73	**$ 2,561,117.94**

PROJ. NO.	EDS-441(28)
P.I. NO.	122090
DATE	5/17/2010

CALL NO.

FUEL ADJUSTMENTS - BRIDGE

FPA = ([((FPM-FPL)/FPL)-.10]x(QxF/1000))FPL

			REGULAR UNLEADED	DIESEL	TOTALS
Fuel Price Adjustment (FPA)			$ 5,747.55	$ 32,993.04	$ 38,740.59
Monthly Fuel Price for month work was accomplished (FPM)		125%	$ 6.309	$ 6.791	
Monthly Fuel Price for month when project was let (FPL)			$ 2.804	$ 3.018	
Quantity Placed (Q)	Cost	$ 1,188,270.40			
Fuel Usage Factor (F)			1.5	8	

Section		Bridge 1 Cost	Bridge 2 Cost	Bridge 3 Cost	Bridge 4 Cost
211	Bridge Excavation				
500	Superstr Conc Cl AA				
500	Class A Concrete				
500	Class AA Concrete				
500	Concrete Handrail				
500	Concrete Barrier				
501	Structural Steel				
507	Prestressed Conc Beams				
507	Prestressed Conc Beams				
507	Prestressed Conc Beams				
511	Super Reinforcement				
511	Bar Reinf Steel				
520	Piling				
520	Piling				
524	Drilled Caisson				
547	Pile Encasement				
547	Pile Encasement				
		$ -	$ -	$ -	$ -

Use when bridge items haven't been established. Assumes 80% of the estimated bridge cost will qualify for fuel adjustments.

EST. BRIDGE COST	% COST w/ADJ.
$ 1,485,338.00	80%
COST	$ 1,188,270.40

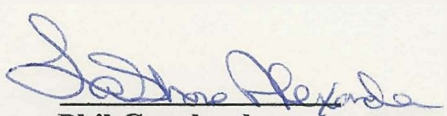
TOTAL BRIDGE FUEL ADJUSTMENTS	$ 5,747.55	$ 32,993.04	**$ 38,740.59**
TOTAL FUEL ADJUSTMENT (ROADWAY AND BRIDGE)	$ 656,671.75	$ 1,943,186.77	$ 2,599,858.52

PROJ. NO.: EDS-441(28)
P.I. NO. 122090
DATE: 5/17/2010

Base Construction Cost		$	33,614,736.40
E & I	5%	$	1,680,736.82
Subtotal Construction Cost		$	35,295,473.22
Fuel Adjustment (Roadway) (125% cap)		$	2,561,117.94
Fuel Adjustment (Bridge) (125% cap)		$	38,740.59
Liquid AC Adjustment (125 % cap)		$	3,972,926.56
Total Construction Cost		$	41,868,258.30

Fuel Adjustment Unleaded	$	656,671.75
Fuel Adjustment Diesel	$	1,943,186.77

Preliminary Right of Way Cost Estimate



Phil Copeland
Right of Way Administrator
By: LaShone Alexander

Date: May 27, 2010
Project: EDS-441(28) Rabun County
Existing/Required R/W: Varies/Varies
Project Termini : US 441 Widening Project
Project Description: US 441 Widening Project

P.I. Number: 0122090
No. Parcels: 181

Land:			
	Commercial RW: 1,089,000 sf @ 4.25/sf		$ 4,628,250.00
	Residential RW: 1,306,800sf @ .0.95/sf		$ 1,241,460.00
			$ 5,869,710.00
Improvements : 10 Residences, 19 Commercial , signs, fencing, landscaping misc. site improvements			$ 5,000,000.00
Relocation: Residential (10)		$ 40,000	$ 400,000.00
Commercial (19)		$ 25,000	475,000.00
Damage : Proximity			$ 100,000.00
Cost to Cure			
			$ 11,844,710.00
	Net Cost		$ 11,844,710 .00

Net Cost		$ 11,844,710.00
Scheduling Contingency	55 %	6,514,590.00
Adm/Court Cost	60 %	7,817,508.00
		$ 20,846,689.00

Total Cost $ 20,847,000

Note: The Market Appreciation (40%) is not included in the updated Preliminary Cost Estimate.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE EDS00-0441-00(028) Rabun
P.I. No. 122090-

OFFICE Gainesville

DATE February 25, 2010

FROM Allen Ferguson
District Utilities Engineer

TO Office of Program Delivery
ATTN Hiral Patel

SUBJECT PRELIMINARY REIMBURSABLE UTILITY COST (ESTIMATE)

As requested by your office, we are furnishing you with a Preliminary Reimbursable Utility Cost estimate for the subject project.

PRIVATE UTILITIES

FACILITY OWNER	NON - REIMBURSABLE	REIMBURSABLE
Georgia Power-Distribution		$ 550,000.00
Georgia Power-Transmission		$ 225,000.00
Northland Cable (CATV)	Non-Reimbursable	
Windstream Telephone		$ 110,000.00
	Total Private Reimbursable	$ 885,000.00

PUBLIC UTILITIES

FACILITY OWNER	NON - REIMBURSABLE	REIMBURSABLE
City of Clayton Water & Sewer	$ 430,000.00 (see note on next page)	
Clayton-Rabun Water & Sewer Authority		$ 189,000.00
City of Dillard	$ 80,000.00	
Toccoa Natural Gas		$ 80,000.00
	Total Public Reimbursable	$ 269,000.00

Total Public & Private Reimbursable Cost: $ 1,154,000.00

Total reimbursable cost for the above project: $ 1,154,000.00

***** The reimbursable amount could increase an additional $ 430,000.00, bringing the reimbursable total to $ 1,584,000.00 if the City of Clayton were to apply and be approved for utility assistance for their relocation costs.**

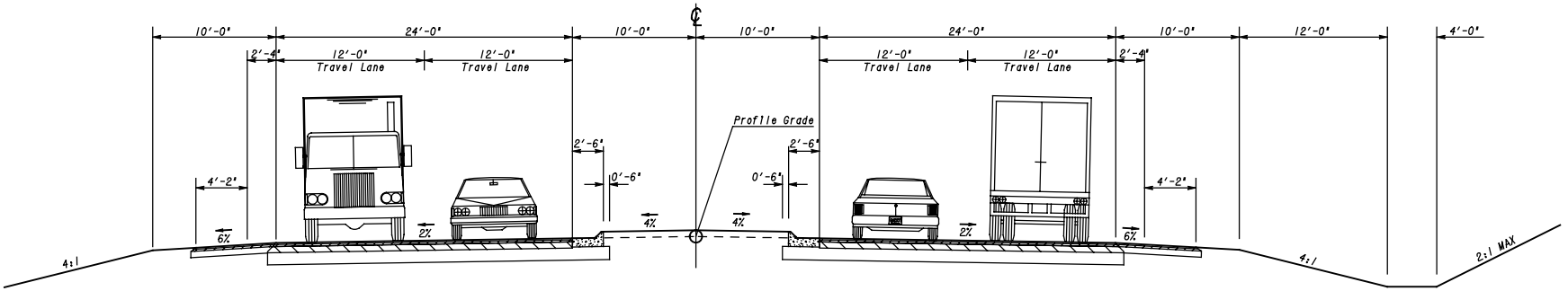
If you have any questions, please contact Nathaniel O'Kelley at 770-532-5510.

RAF:HNO

C: Jeff Baker, State Utilities Engineer
Angie Robinson, Office of Financial Management
Rob Mabry, Area Engineer
File

DATE$$$	TIME$$$	PRF	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GA	EDS-441(28)		

20-FT RAISED MEDIAN WITH BIKE LANES RURAL SECTION
45 MPH SPEED DESIGN



US 441/SR 15
FROM BEGINNING TERMINUS
TO SOUTHERN MOUNTAIN CITY LIMITS

FROM CATHEY ROAD
TO CR 216/WOLFFORK ROAD

FROM SR 246/HIGHLANDS ROAD
TO GEORGIA AND NORTH CAROLINA STATE LINE

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SCALE IN FEET
0 10 20 40

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD & AIRPORT DESIGN

TYPICAL SECTIONS

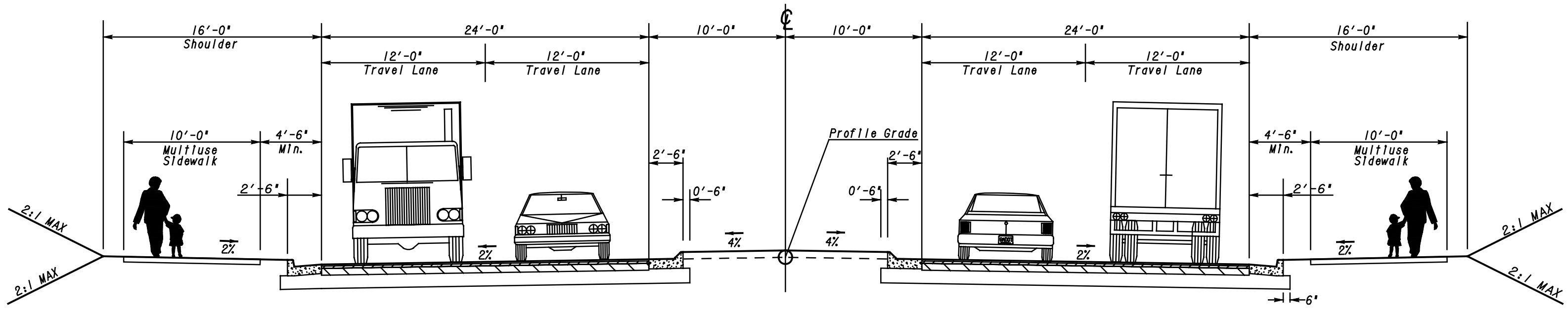
US 441/SR 15 IMPROVEMENTS
CLAYTON TO NC STATE LINE

DRAWING No. 5-01

3/1/2007 GPLN

DATE$$$	TIME$$$	PRF	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GA	EDS-441(28)		

20-FT RAISED MEDIAN WITH BIKE LANES URBAN SECTION
45 MPH SPEED DESIGN



US 441/SR 15

FROM SOUTHERN MOUNTAIN CITY LIMITS

TO CATHEY ROAD

FROM CR 161/LEDFORD ROAD

TO SR 246/HIGHLANDS ROAD

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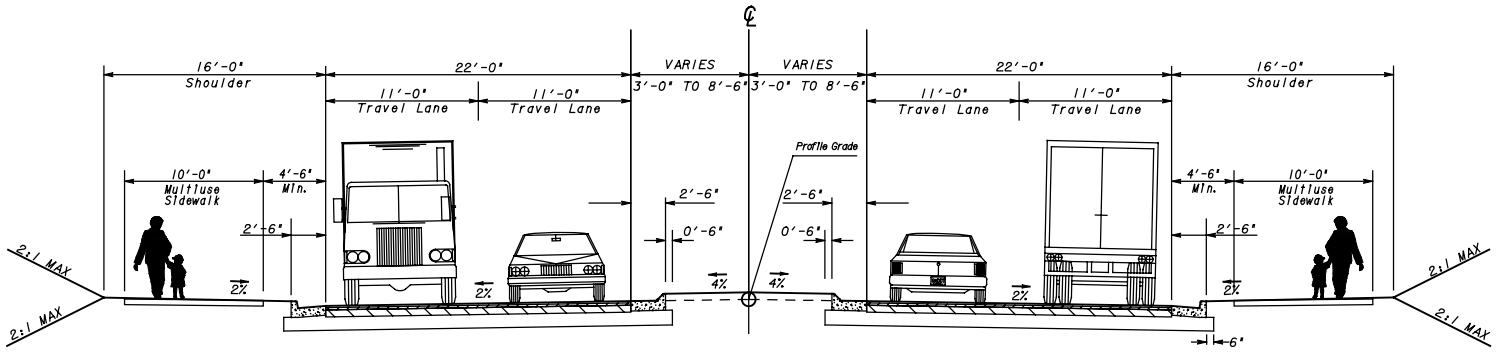
0 10 20 40

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD & AIRPORT DESIGN
TYPICAL SECTIONS
US 441/SR 15 IMPROVEMENTS
CLAYTON TO NC STATE LINE
DRAWING No.
5-02

DATE$$$	TIME$$$	PRF	DGN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GA	EDS-441(28)		

17-FT & 6-FT RAISED MEDIAN WITH BIKE LANES URBAN SECTION
45 MPH SPEED DESIGN



US 441/SR 15
FROM CR 216/WOLFFORK ROAD
TO CR 161/LEDFORD ROAD

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SCALE IN FEET
0 10 20 40

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD & AIRPORT DESIGN

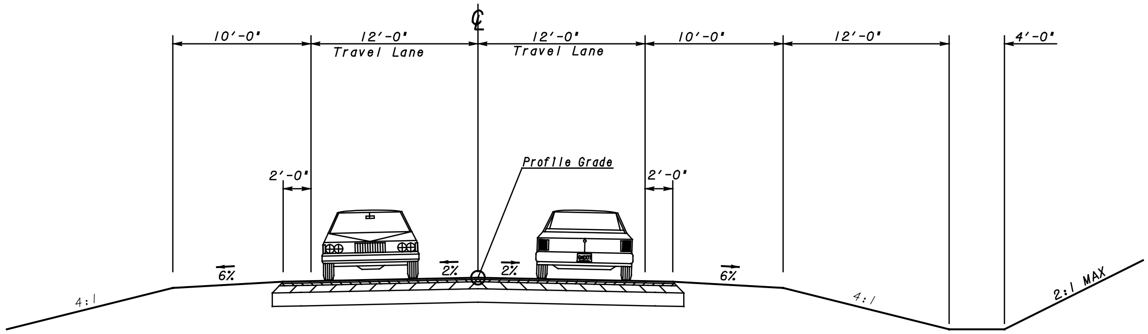
TYPICAL SECTIONS

US 441/SR 15 IMPROVEMENTS
CLAYTON TO NC STATE LINE

DRAWING No. 5-03

3/1/2007 GEM

2 LANE RURAL SECTION
25-35 MPH SPEED DESIGN
(RELOCATION & TIE-INS)



RELOCATION & TIE-INS FOR:
CS 500/CLAYBURN RD., CR 39/MOUNTAIN CITY RD., GEORGE RD., CROSS ST.,
FILE ST., GREEN ACRES DR. EXTENSION TO GREEN ST.,
CR 1/OLD WOLF FORK RD., CR 5/YORK HOUSE RD., CR 7/KELLY'S CREEK RD.,
FRANKLIN ST. EXTENSION TO CR 6/GREENWOOD RD., CAROLINA ST.,
CR 91/F.T. BLACK CIR. EXTENSION TO RIVER VALLEY LN.,
CR 11/LAMB RD.

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SCALE IN FEET
0 10 20 40

REVISION DATES

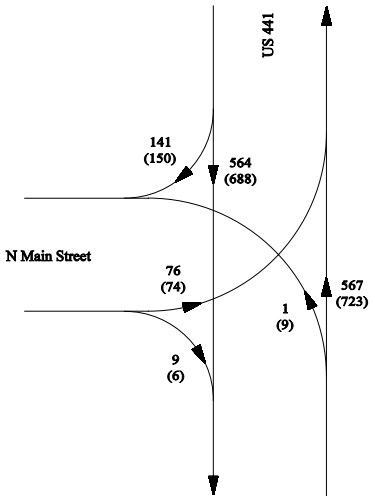
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD & AIRPORT DESIGN

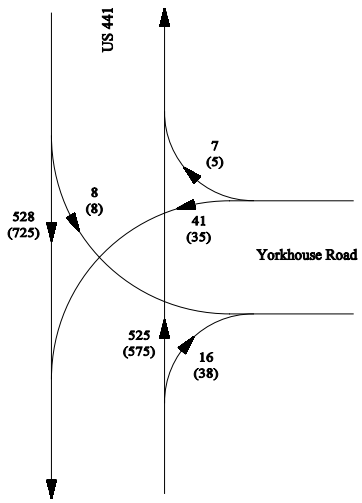
TYPICAL SECTIONS

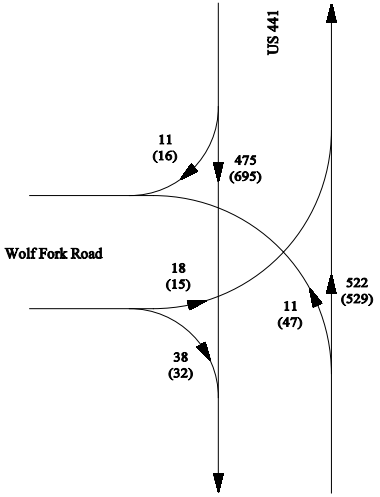
US 441/SR 15 IMPROVEMENTS
CLAYTON TO NC STATE LINE

DRAWING No. 5-04

DATE###	TIME###	#PRF#	#DGN#	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
#USER#		##PENTABLE##		GA	EDS-441(28)		







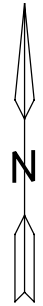


FIGURE 4
US 441
RABUN COUNTY
EDS - 441 (28)
P.I. No. 122090
2013 AM Peak Hour 000
2013 PM Peak Hour (000)

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REVISION DATES

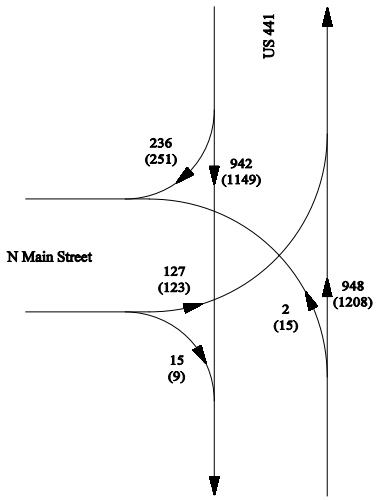
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD & AIRPORT DESIGN

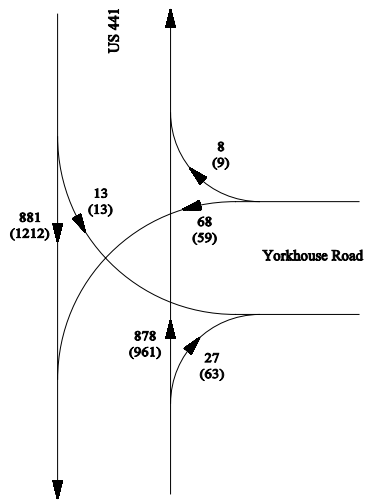
TRAFFIC DIAGRAM

US 441/SR 15 IMPROVEMENTS
CLAYTON TO NC STATE LINE

DRAWING No. 10-01

3/1/2007 GPM





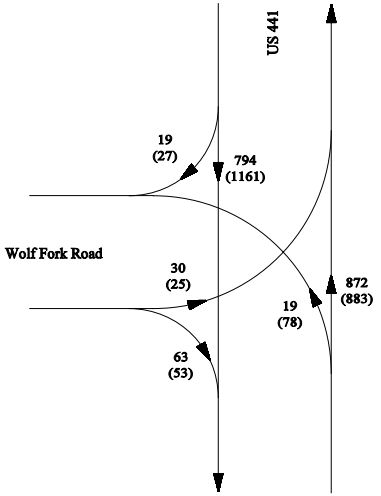


FIGURE 4
US 441
RABUN COUNTY
EDS - 441 (28)
P.I. No. 122090
2033 AM Peak Hour 000
2033 PM Peak Hour (000)

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REVISION DATES

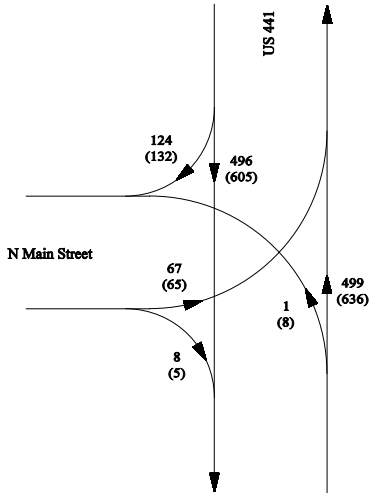
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD & AIRPORT DESIGN

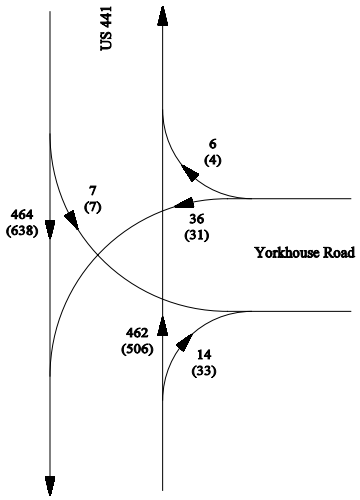
TRAFFIC DIAGRAM

US 441/SR 15 IMPROVEMENTS
CLAYTON TO NC STATE LINE

DRAWING No. 10-02

3/1/2007 GPM





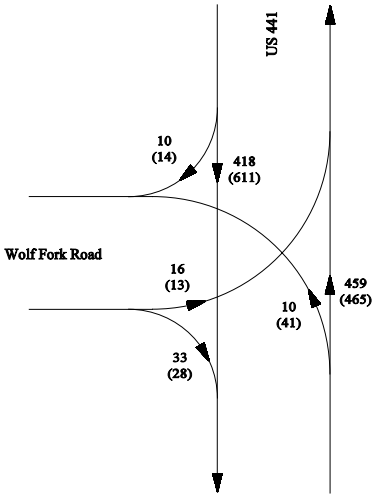


FIGURE 4
US 441
RABUN COUNTY
EDS - 441 (28)
P.I. No. 122090
2008 AM Peak Hour 000
2008 PM Peak Hour (000)

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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD & AIRPORT DESIGN

TRAFFIC DIAGRAM

US 441/SR 15 IMPROVEMENTS
CLAYTON TO NC STATE LINE

DRAWING No. 10-03

Department of Transportation
State of Georgia

INTERDEPARTMENT CORRESPONDENCE

FILE EDS-441(28), Rabun County
P.I. # 122090

OFFICE Environment/Location

DATE July 2, 2004

FROM Harvey D. Keepler, State Environment/Location Engineer

TO Brent Story, P.E., State Consultant Design Engineer
Attn. David Norwood

SUBJECT Updated Design Traffic for S.R. 15/U.S. 441 from North CL/Clayton to North Carolina Line.

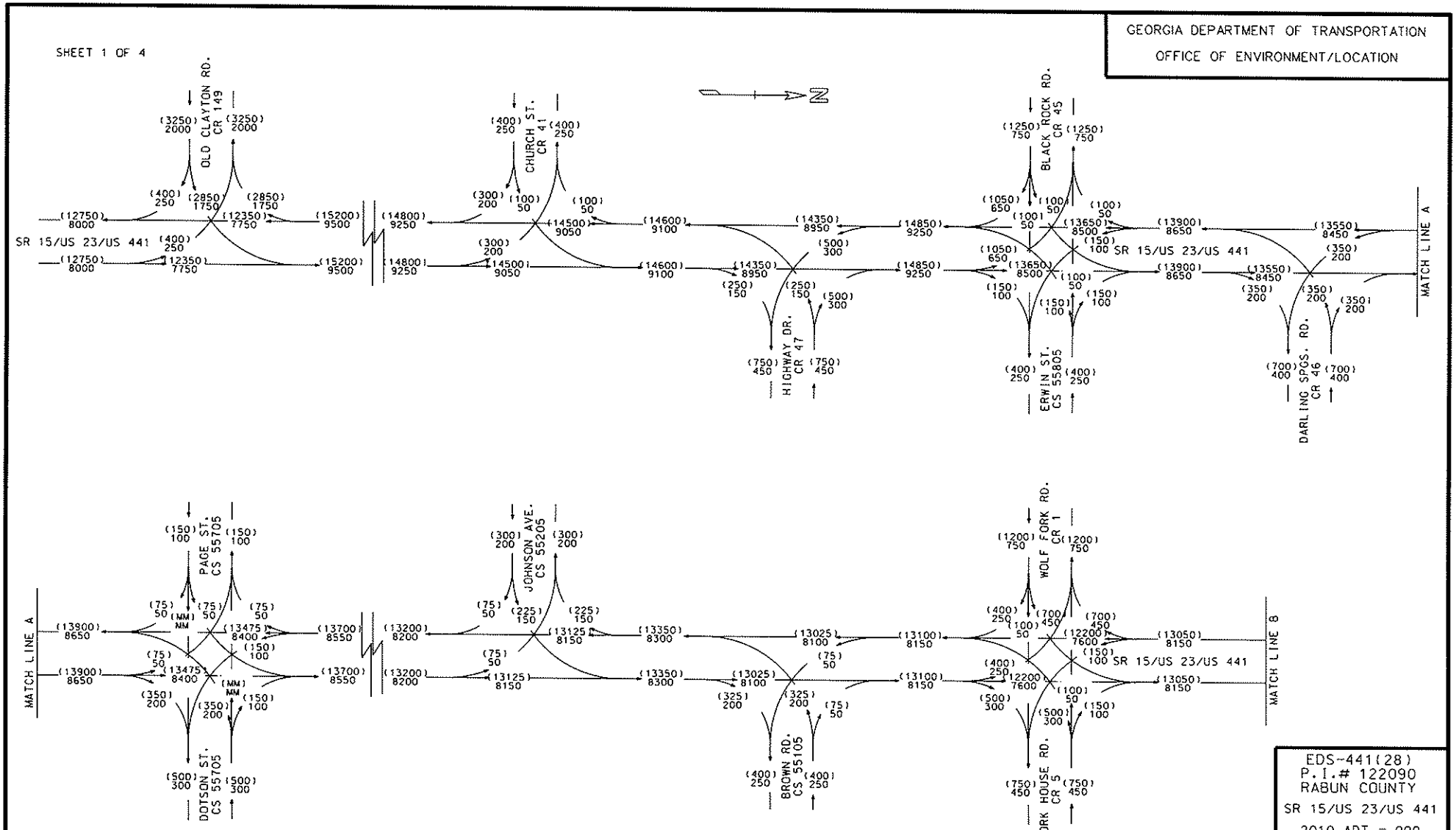
Updated Design Traffic for the above project is attached in Microstation File 122090.dgn.

If you have any questions concerning this information please contact Abby Ebodaghe at (404) 699-4454.

HDK/AFE

SHEET 1 OF 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



EDS-441(28)
P.I.# 122090
RABUN COUNTY

SR 15/US 23/US 441

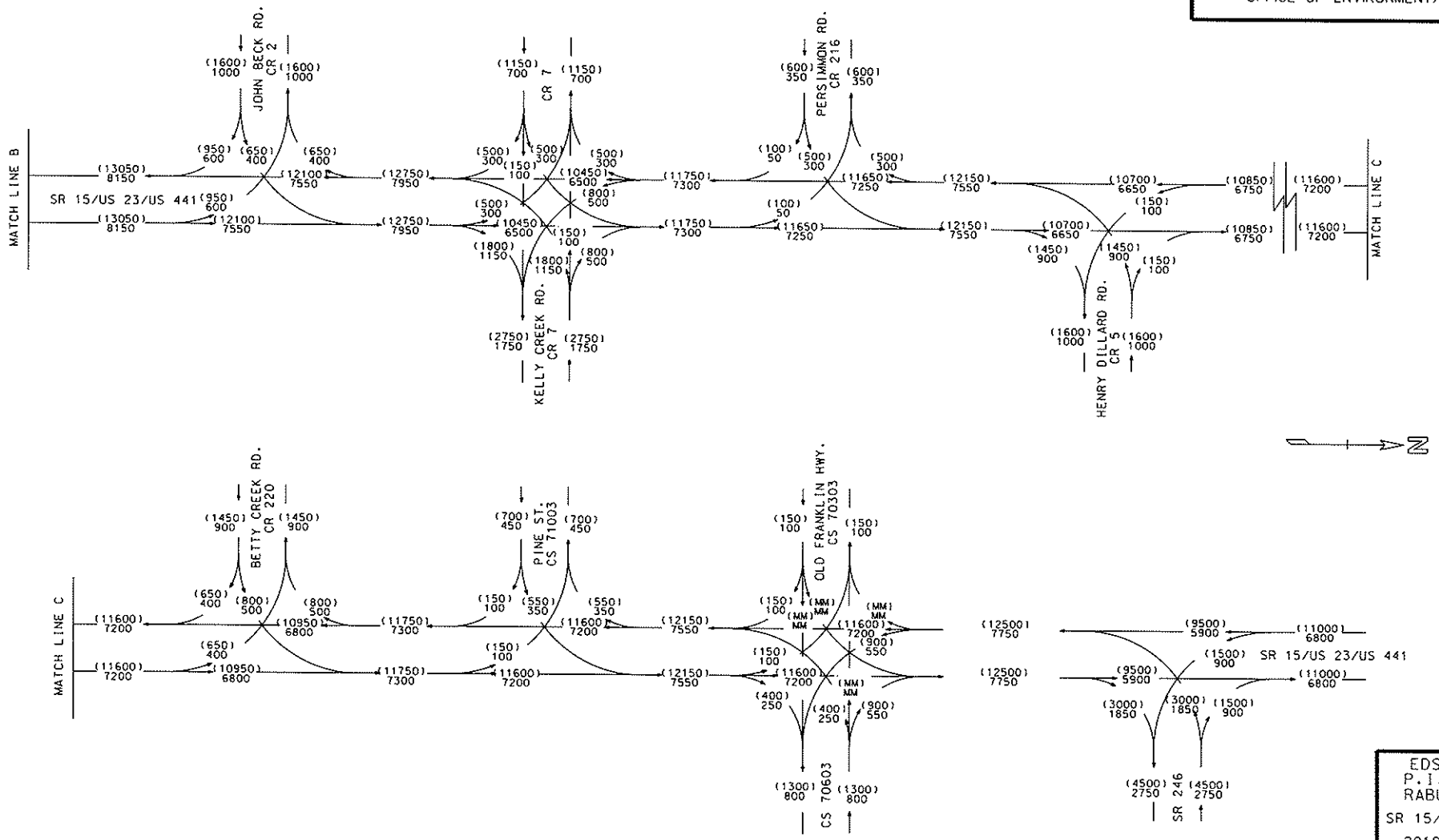
2010 ADT = 000
2030 ADT = (000)

24 HR. T = 8%
S.U. = 4%
COMB. = 4%

AFE
07/04

SHEET 2 OF 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



EDS-441(28)
P.I.# 122090
RABUN COUNTY

SR 15/US 23/US 441

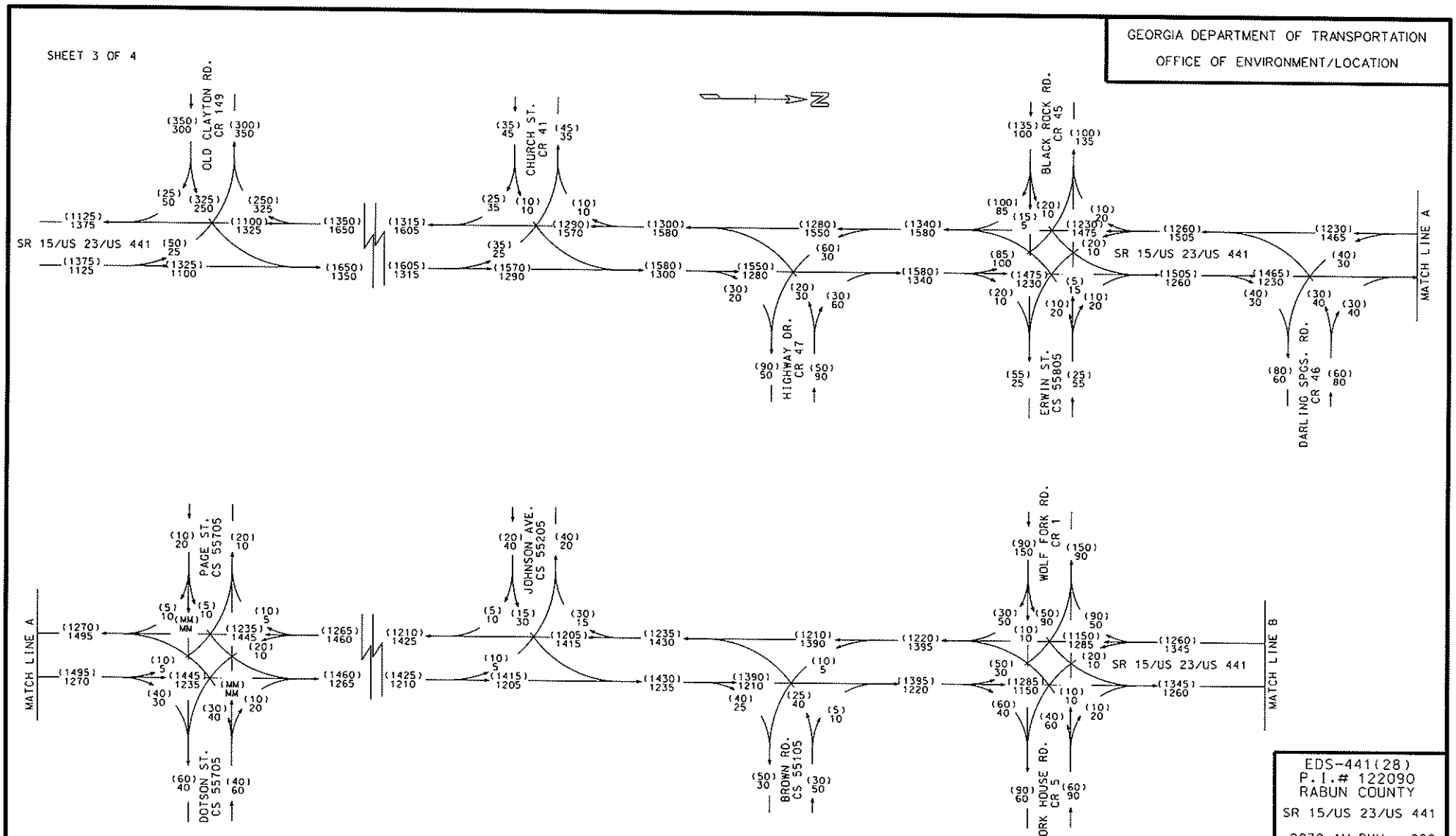
2010 ADT = 000
2030 ADT = (000)

24 HR. T = 8%
S.U. = 4%
COMB. = 4%

AFE
07/04

SHEET 3 OF 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION



EDS-441(28)
P.I.# 122090
RABUN COUNTY

SR 15/US 23/US 441

2030 AM DHV = 000
2030 PM DHV = (000)

T = 5%

AFE
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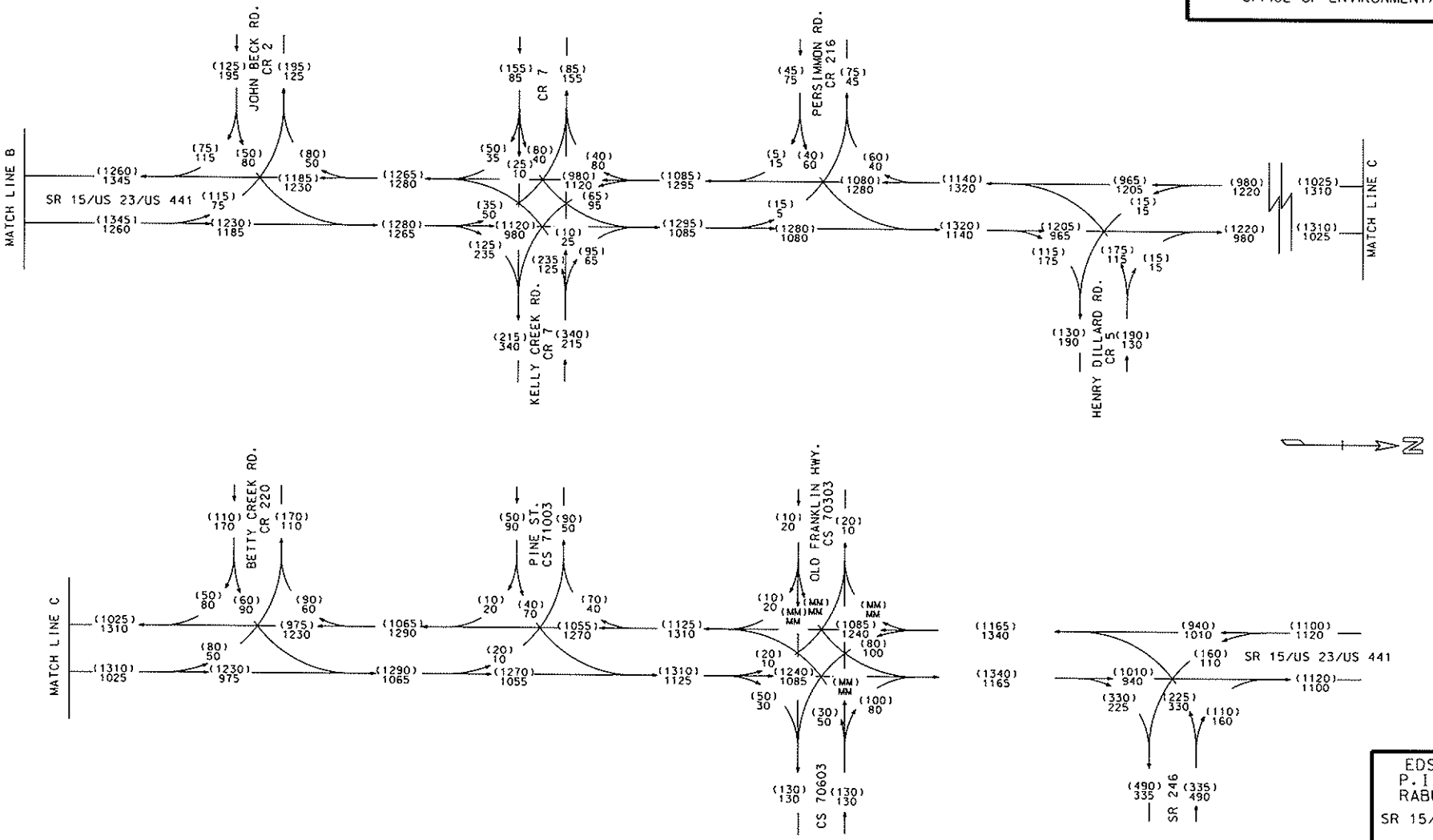
GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT/LOCATION

SHEET 4 OF 4



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DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: EDS00-0441-00(028) Rabun
P.I. No.: 122090
SR 15/US 441 Widening

OFFICE: Engineering Services

DATE: October 6, 2009

FROM: Ronald E. Wishon, Project Review Engineer RW

TO: Bobby Hilliard, PE, State Program Delivery Engineer

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held June 22-25, 2009. Responses were received on October 1, 2009. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
A-2	Use 2:1 front slopes and guardrail versus 4:1 front slopes and no guardrail.	Proposed = $552,200 Actual = $250,000	Yes, where possible	This will be implemented on a case by case basis. The determining factors in using the guardrail will be the height of the fill and the potential length of the guardrail. Potential maintenance of the guardrail will be considered. If additional maintenance for the guardrail negates the savings, this recommendation will be applied less frequently.
A-3	Use permanent easements versus ROW for a portion of the land acquisition	Proposed = $33,640,000 Actual = $18,000,000	Yes	This will be done. With the implementation of H-1, the potential for savings for A-3 has been reduced.
B-1	Reduce lane width from 12 ft to 11 ft	$2,723,000	No	This corridor has a truck volume of 16%. There are also a large number of camping facilities in the area that are utilized by a significant number of recreational vehicles.

B-2	Replace sidewalks and bike lanes with wider sidewalks to be used as multi-use trails throughout urban shoulder section	Proposed = $6,205,000 Actual = $2,724,200	Yes	This will be done. The proposed bike lanes in areas with curb and gutter will be replaced with a multipurpose trail on the east side of the road. The cost savings were reduced due to updated ROW costs.
B-3	Reduce urban shoulders from 16 ft to 12 ft	$5,755,000	No	This cannot be done since B-2 will be implemented.
B-4	Use 5-lane typical section through entire length of project	$2,882,000	No	Two way left turn lanes are usually implemented when future traffic volumes are projected to be less than 24,000 VPD. Projected traffic for this corridor is 29,600 VPD. The accident rate along this corridor is higher than average for this type of roadway.
D-1	Use a 17 ft raised median in lieu of the proposed 20 ft median	$2,871,000	No	A median width less than 20 ft at un-signalized intersections raises safety concerns with the left turn movements along the mainline as well as storage for crossover or left turn movements from side roads. This area is rapidly developing and will require more turning movements in the future. The 20 ft median will allow additional median openings to be easily constructed without the need to widen the roadway and buy additional right of way.
D-3	Use a 16 ft raised median in lieu of the proposed 20 ft raised median	$3,828,000	No	A median width less than 20 ft at un-signalized intersections raises safety concerns with the left turn movements along the mainline as well as storage for crossover or left turn movements from side roads. This area is rapidly developing and will require more turning movements in the future. The 20 ft median will allow additional median openings to be easily constructed without the need to widen the roadway and buy additional right of way.

H-1	Use additional walls instead of slopes to reduce the need to purchase new ROW	Proposed = $32,280,000 Actual = $13,450,000	Yes	This will be done on a case by case basis. With the implementation of A-3, the potential for savings for H-1 has been reduced. The cost savings were also reduced due to updated ROW costs.
J-1	Evaluate traffic control cost used in cost estimate	Design Suggestion	Yes	This will be done.
J-2	Use the existing bridge at Little Tennessee River as it is without widening	$290,700	No	The proposed design requires the widening of the bridge to accommodate the left turn lane for John Beck Dockins Road.
J-3	Use 2 in 19 mm recycled asphalt concrete sidewalks on 3 in GAB in lieu of 4 in concrete sidewalks	Proposed = $1,042,000 Actual = $105,000	Yes	In conjunction with the implementation of B-2 (multipurpose trails), the sidewalk will be constructed of asphalt. The savings have been revised due to differences in the typical section of the multiuse path.
J-4	Delete the 5 in thermoplastic white edge stripe against the concrete gutter	$61,300	No	This area has a high occurrence of fog compared to other areas in Georgia. The pavement edge stripe is necessary because of directional and safety concerns.

Additional information was provided on October 2, 2009.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved: _____ **Date:** 10/6/09

Gerald M. Ross, PE, Chief Engineer

REW/LLM
Attachments
c: Genetha Rice Singleton
Paul Liles/Bill Duvall/Bill Ingalsbe/Joe King
Bobby Hilliard/Mike Haithcock/David Norwood/Hiral Patel
Alexis John
Randy Davis/Rob Mabry
Ken Werho
Nabil Raad
Lisa Myers
Matt Sanders